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NOTES ON THE GENUS *EUASPA* MOORE (PAPILIONOIDEA : LYCAENIDAE : THECLINAE) FROM NORTH-WEST INDIA

AVTAR KAUR SIDHU

Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053, India

INTRODUCTION

Moore (1884) proposed the genus *Euaspa* on the type-species *Myrina milionia* Hewitson and characterized the same on the basis of some external morphological characters, which according to de Niceville (1890) are very erroneous. Though the latter author improved upon the generic diagnosis by incorporating wing venation but he did not study the external genitalic characters of the type-species. In view of insufficient characterization, Shirozu and Yamamoto (1956) examined the external male and female genitalia of the type-species and updated the diagnosis. Four species of this genus are reported from world over (Bridges, 1988) of which three species (Varshney, 1997) are found in India. Among them, two species viz. *milionia* Hewitson (type-species) and *ziha* Hewitson are met with in North-West India. During the present studies, both these species are examined and the generic diagnosis updated adding characters such as labial palpi and wing venation. This genus is peculiar in subfamily Theclinae owing to the presence of undivided uncus in the male genitalia. The male and female genitalia of these two species have been studied in details.

OBSERVATIONS

Genus *Euaspa* Moore

1884. Moore, *J. asiat. Soc. Bengal*, pt II 53(1) : 29.
1890. de Niceville, *Butts India Burmah Ceylon*, 3 : 309.
1956. Shirozu and Yamamoto, *Sieboldia*, 1(4) : 368.
1963. Cantlie, *Lyc. Butts Revised* : 9.

Type-species Myrina milionia Hewitson

1869. Hewitson, *Ill. Diurn. Lep. Lycaenidae* 1 (Suppl.) : 5.

Generic diagnosis : Frontoclypeal area clad with black hair and a white median streak; eyes sparsely hairy; second segment of labial palpi hairy; antenna with undifferentiated cylindrical club, nudum goes deep into flagellum; each leg with femur hairy; hind wing tailed at vein Cu1b, forewing with 11 veins, stalks of veins R3 + R5 and vein M1 common at origin; male genitalia with uncus undivided, elongated, at base socii present; valva basal half broad with elongated apical processes, base of ductus bursae sclerotized, ductus seminalis entering near the base, corpus bursae elongated, with a pair of signae.

Key to the species of the genus *Euaspa* Moore from North-West India

1. Fore wing and hind wing with broad discal patch on upper surface, undersurface of both wings with broad white discal bands; vein R3 originate from vein R5 nearer apex; male genitalia with apex of uncus rounded; female genitalia with base of ductus bursae well sclerotized, funnel-like *milionia* Hewitson
2. Fore wing with two minute discal white spots on upper surface, hind wing without any white patch dorsally; undersurface of both wings with linear bands; vein R3 originate from vein R5 nearer to end of discal cell; male genitalia with apex of uncus pointed; female genitalia with base of ductus bursae narrower, not funnel-like *ziba* Hewitson

Euaspa milionia (Hewitson)

Plate-I(A)

1869. Hewitson, *Ill. Diurn. Lep. Lycaenidae*, 1 (Suppl.) : 5 (*Myrina*).

1890. de Niceville, *Butts India Burmah Ceylon*, 3 : 310 (*Euaspa*).

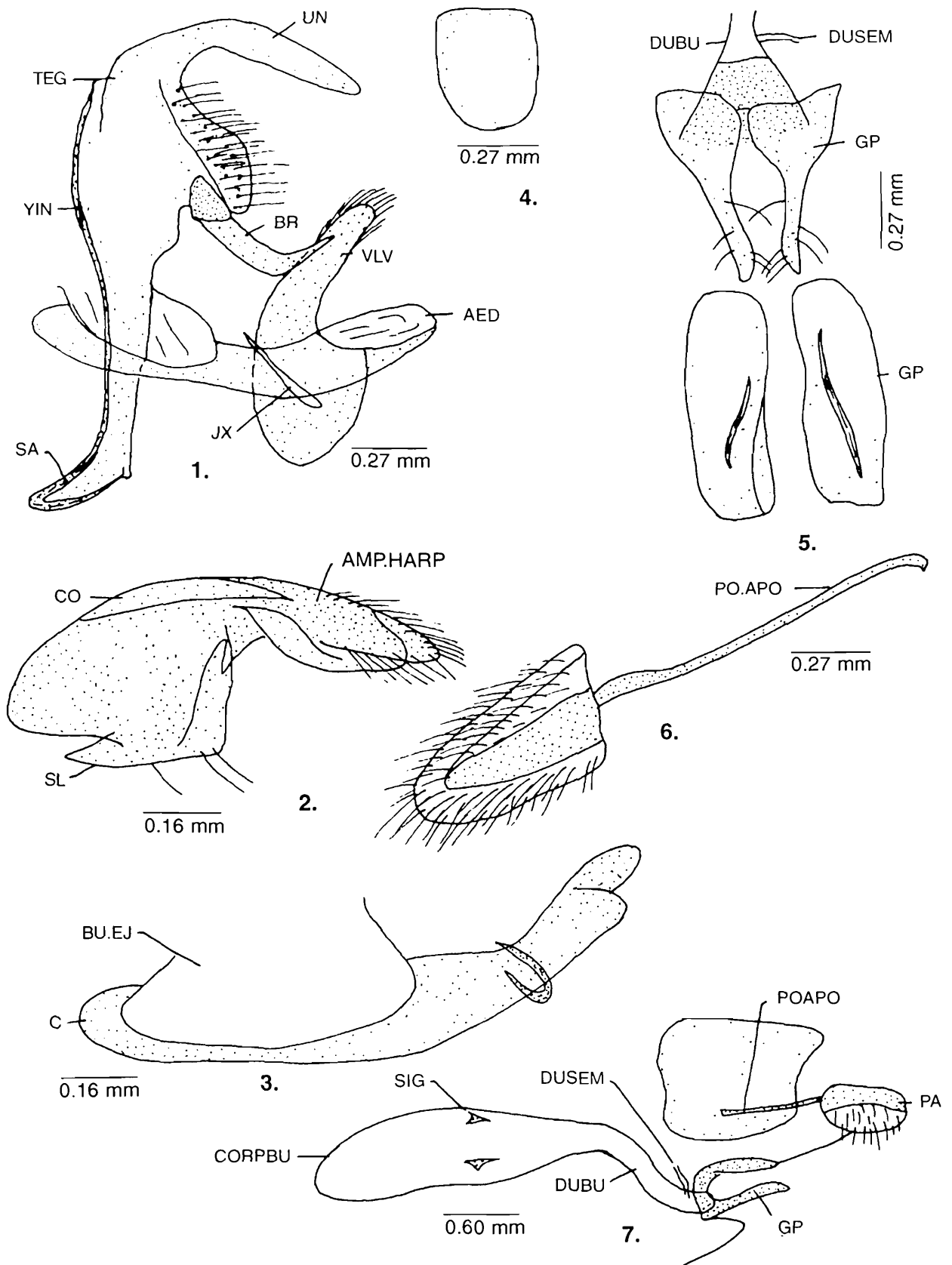
Common name : Water Hairstreak.

Male genitalia (Figs. 3-5) : Uncus undivided, elongated, tubular, rounded distally with socii pilose; brachia long, slender, curved; tegument broad; vinculum straight, ends into short saccus; valva broader in upper half, with abruptly narrow elongated apical process, pilose; juxta crescent-shaped, narrow; aedeagus short, spatulate at apex, bulbus ejaculatorius entering widely dorsally, coecum rounded.

Female genitalia (Figs. 6-9) : Lodix oval; genital plate with two pillar like, weakly sclerotized processes ventrally; ductus seminalis attached near base of ductus bursae; the latter well sclerotized, siphon-like at base, slender; corpus bursae elongated, with a pair of signae; apophysis anterioris absent; apophysis posterioris curved near base, hooked at apex; papilla analis elongated, pilose.

Wing expanse : Sexes similar : 17.0–17.5 mm.

Material Examined : H.P. : 1 ♀ 20.VII.1992, Dharwas, Chamba (Pangi valley, Pir Panjal range), coll. H.S. Rose and A.K. Sidhu. Uttaranchal : 12 ♂, 9 ♀ 3.VI.1992–5.VI.1992; Mussoorie, Dehradun, coll. A.K. Sidhu; 10 ♂, 11 ♀ 24.IX.2005, Mussoorie, Dehradun, coll. A.K. Sidhu.



Figs. 1-7. : *Euaspa milionia* (Hewitson). 1. Male genitalia lateral view; 2. Valva (inner view); 3. Aedeagus (lateral view); 4. Lodix; 5. Genital plate; 6. Papilla analis; 7. Female genitalia (lateral view).

Range : 1440–3000 m ASL.

Former distribution : North-west Himalaya, Shimla, Kangra valley, Kumaon, Mussoorie, Dehradun, Khijjar, Nepal.

Remarks : This species is described from twenty two male and twenty one female individuals. The lone female specimen collected during the present study from an isolated locality *i.e.*, Pangi valley, falling in Pir Panjal range of Himalayas, forms the first record of the species from this locality. The female genitalia of this specimen is similar to the genitalia of individuals collected from Mussoorie.

Euaspa'zaha (Hewitson)

Plate–I(B)

1869. Hewitson, *Ill. Diurn. Lep. Lycaenidae*, **1** (Suppl.) : 66 (*Dipsas*).

1890. de Niceville, *Butts India Burmah Ceylon*, **3** : 308 (*Zephyrus*).

1932. Evans, *Ident. Indian Butts* (2nd ed.) : 252 (*Thecla*).

1963. Cantlie, *Lyc. Butts Revised* : 91 (*Euaspa*).

Common name : White spotted Hairstreak.

Male genitalia (Figs. 12-14) : Uncus undivided, very long, apex pointed, with well produced, pilose socii; brachia very small, curved inwards, pointed; tegument broad; vinculum long, without saccus; valva oval, with a long narrow, downwardly curved process, pilose; juxta u-shaped, arms narrow; aedeagus short, dorso-ventrally flattened, apex spatulate, bulbus ejaculatorius dorsad, coecum rounded.

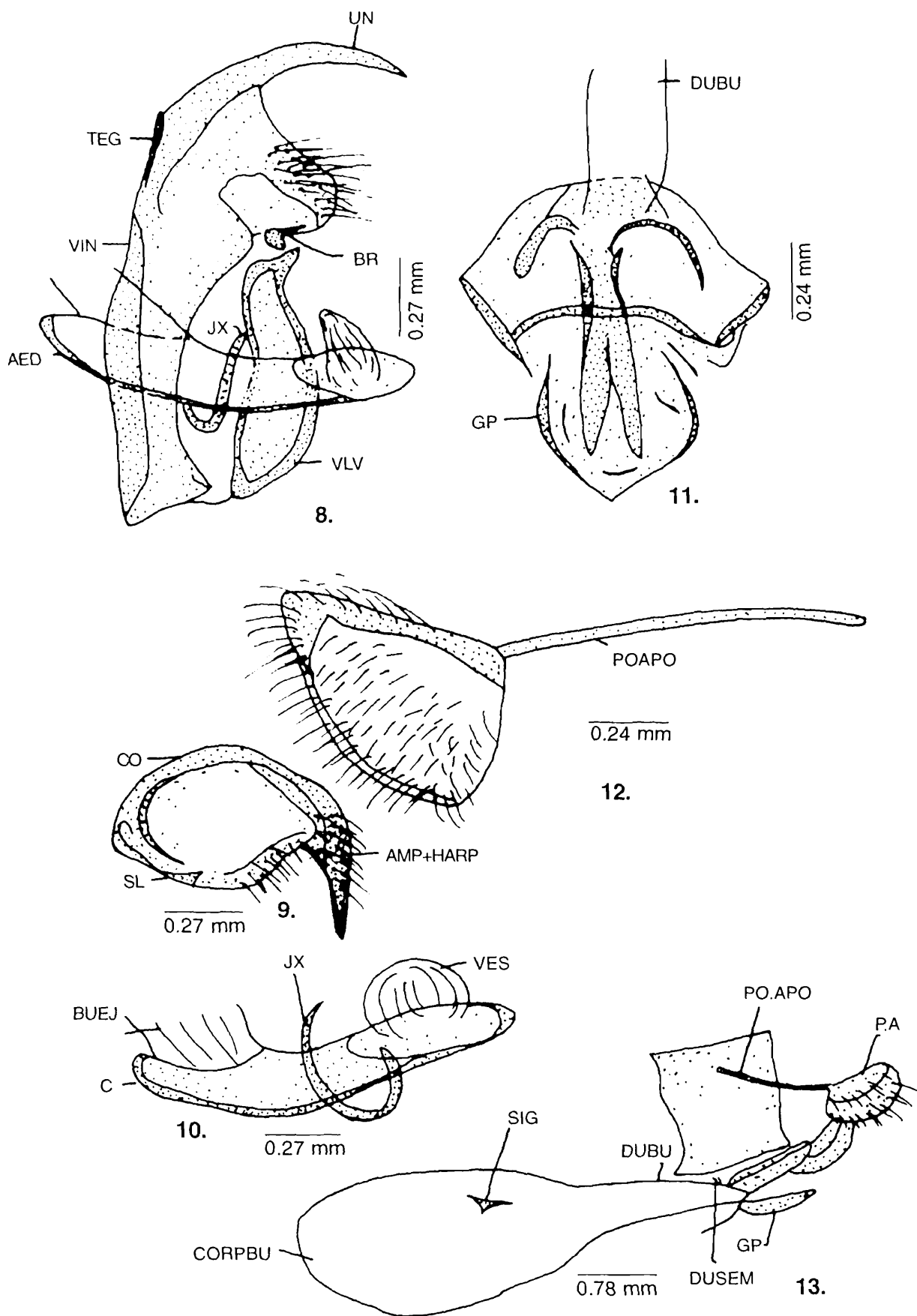
Female genitalia (Figs. 15-17) : Genital plate well developed, elongated and sclerotized, with a pair of well sclerotized processes; ductus seminalis entering near sclerotized basal portion of ductus bursae; the latter goes imperceptibly into very large, oval corpus bursae, a pair of triangular signae present; ends of eighth sternum produced into small, triangular anterior apophysis; posterior apophysis long, slender; papilla analis suboval, pilose.

Wing expanse : Sexes similar : 18.5–19.5 mm.

Material examined : Uttaranchal : 2♂, 3♀ 3.VI.1992–5.VI.1992, 1♂, 3♀ 24.IX.2005, Mussoorie, Dehradun, coll. A.K. Sidhu.

Former distribution : North-West Himalaya, Kullu, Shimla, Mussoorie, Dun Valley, Nilgiris.

Remarks : The male and female genitalia of this species are described for the first time. The critical examination of the various external morphological characters shows that the species conforms to the characterization of the genus *Euaspa* given by Cantlie (1963). The genitalic organs of the species studied presently are congeneric with those of the type-species, *Myrina milionia* transferred to the genus *Euaspa*. The present surveys also show that the species is moderately abundant in Mussoorie hills.



Figs. 8-13. : *Euspa ziba* (Hewitson). 8. Male genitalia lateral view; 9. Valva (inner view); 10. Aedeagus (lateral view); 11. Genital plate; 12. Papilla analis; 13. Female genitalia (lateral view).

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